

AMENDMENTS TO THE SPECIFICATION

Please replace current paragraph [0021] of the specification with the following amended paragraph:

[0021] A perspective view of an embodiment of the present invention is illustrated in FIG. 1. The actuator comprises a pumping chamber or actuator body 2a, an 0-ring 4 that is preferably made from TEFLON®, inlet porthole 5, outlet portholes 6, inlet 7, and retaining lid 1 with SMA membrane 3. The actuator body 2a includes surfaces that define ~~and~~ an actuation chamber in which the membrane is located. The bottom surface of the actuation chamber is a membrane seat surface as shown at 25. The 0-ring 4 provides a seal between the lid 1 and the actuator body 2a. The retaining lid 1 is pressed on to the actuator body 2a such that junctions between the TEFLON® 0-ring 4 and ~~pump-chamber~~ actuator body 2a and TEFLON® 0-ring 4 and SMA membrane 3 are watertight. A small cavity 9 is formed between the membrane seat surface 25 and the SMA membrane 3. The retaining lid 1 and ~~pump-chamber~~ actuator body 2a are electrically insulated.

Please replace current paragraph [0022] of the specification with the following amended paragraph:

[0022] The membrane seat surface 25 can be flat, as shown in FIGS. 1 and 2, but is preferably dome-shaped, as shown in FIG. 4, and has the inlet 5 located ~~in~~ at the top of the dome and the

outlets 6 located equidistantly around the outer perimeter of the domed surface. The inlet 7 in the actuator body is joined to inlet 5 to provide fluid flow into the actuation chamber. The fluid introduced through inlet 5 is at a temperature that is below the martensite-austenite transition temperature of the given membrane material and it is introduced at a bias force or pressure that is sufficient to move the membrane from its undistorted form (adjacent to the domed seat) to a distorted form where the membrane is displaced away from the domed-seat 25. Upon heating to a temperature above its martensite-austenite transition temperature, the membrane seeks to return to its original undistorted shape. This exerts the necessary force or pressure to move the fluid in the cavity between the membrane 3 and the domed-seat 25 out of the actuation chamber through outlets 6.